

# uniden



## AX 44 CB RADIO OWNERS MANUAL

## DESCRIPTION

Your UNIDEN Model AX44 represents the most advanced Mobile Station type radio ever designed for use in the Citizens Band Radio Service. It will operate on any of the 40 frequencies designated as citizens band channels by the Federal Communications Commission. Your Model AX44 features a frequency synthesizing circuit with PHASE LOCK LOOP techniques to assure ultraprecise frequency control. This radio has been Type Accepted and Type Certified by the F.C.C.

### WARNING

Any adjustments or alterations which would alter the performance of the transceiver's original F.C.C. Type Acceptance or which would change the frequency determining method are strictly prohibited.

Operation of this equipment requires a valid station license issued by the Federal Communications Commission. Do not transmit with your equipment until you have received your license or without complying with the procedures explained on F.C.C. temporary license Form 555-B. You may use Form 555-B as a temporary permit while your regular Form 505 application is being processed by the F.C.C. Illegal operation can result in severe penalties. Be certain that you have read Part 95 of The Plain English Rules-Citizens Band Radio Service before operating your radio. F.C.C. Forms 505 and 555-B and a copy of Part 95 of the Commission's Rules are packed with the transceiver for your convenience.

Your Station License is to be posted in accordance with CB Rules 34 and 44.

F.C.C. Rules require that ALL transmitter adjustments other than those supplied by the manufacturer as front panel operation controls be made by or under supervision of the holder of an F.C.C.-issued 1st or 2nd class radio operator license.

Replacement or substitution of Crystals, Transistors, IC, Regulator Diodes or any other part of a unique nature, with parts other than those recommended by us, may cause violation of the technical regulations of Part 95 of the F.C.C. Rules or violation of Type Acceptance requirements of Part 2 of the Rules.

## LICENSING PROCEDURES

The Citizens Band (CB) Radio Service is under the jurisdiction of the Federal Communications Commission (F.C.C.). Therefore, the operator of a CB transceiver must be in possession of a valid FCC permit or license. The steps to legally operate your UNIDEN transceiver are:

- 1) For immediate operation; complete the Form 555-B, Temporary Permit. Keep it with your unit.
- 2) FCC Form 505, Application for Class C or D Station License in the Citizens Radio Service is the document to be completed to obtain your license which is valid for 5 years. Mail the application to the address indicated on the form. DO NOT send it to Personal Communications Division, Uniden Corporation of America.

These forms are packaged as part of the documents provided with each radio. Every CB operator must read and understand the FCC part 95 prior to operation of a radio.

## **INSTALLATION**

### **MOBILE STATION INSTALLATION**

Plan the location of the transceiver and microphone bracket before starting the installation. Select a location that is convenient for operation and does not interfere with the driver or passenger in the vehicle. The radio should be securely fastened to some solid face, using the mounting bracket and self-tapping screws which are provided.

### **MOBILE STATION ANTENNA**

Since the maximum allowable power output of the transmitter is limited by the F.C.C., the antenna is a very important factor affecting transmission distance. It is for this reason that we strongly recommend that you install only a quality antenna in your new citizens band system. You have just purchased a superior transceiver. Don't diminish its performance by installing an inferior antenna.

Only a properly matched antenna system will allow maximum power transfer from the 50-ohm transmission line to the radiating element. Your UNIDEN dealer is qualified to assist you in the selection of the proper antenna to meet your application requirements.

For automobile installation, the whip antenna may be used with good effect. The most efficient and practical installation is a full quarter wave whip antenna mounted on the rear deck or fender top midway between the rear window and bumper.

A short "loaded" whip antenna is more convenient to install on your automobile, although the efficiency is less than a full quarter wave whip antenna.

For marine installation, consult your dealer for information regarding an adequate grounding system and prevention of electrolysis between fittings in the hull and water.

### **CONNECTING THE POWER CORDS**

With regard to the connection of the power cords, it may be possible or desirable to connect the (red lead for negative ground system) or (black lead for positive ground system) to the ignition switch accessory terminal so that the transceiver is automatically turned off when the ignition switch (key) is turned off.

Alternately, the power lead may be connected to an available terminal on the fuse block or even to a point in the wiring harness. Care must be taken, however, to guard against a short circuit condition. When in doubt, please contact your vehicle dealer for specific information for your vehicle.

### **GROUND INFORMATION:**

**NOTE:** This transceiver may be installed and used in any 12-volt DC negative or positive ground system vehicle.

Most newer U.S. and foreign made cars and small trucks use a negative ground system, while some older cars and some newer large trucks may use a positive ground system.

A negative ground system is generally identified by the (-) battery terminal being connected to the vehicle motor block, but if you cannot determine the polarity system of your vehicle, it is suggested that you consult your vehicle dealer for definite information.

## **NEGATIVE GROUND SYSTEM**

If you are operating on a negative ground system, connect the red DC power cord from the transceiver to the positive, or (+), battery terminal or other convenient point and connect the black power lead to the chassis or vehicle frame, or (-) battery terminal.

## **POSITIVE GROUND SYSTEM**

If you are operating on a positive ground system, connect the black DC power cord from the transceiver to the negative, or (-), battery terminal or other convenient point, and connect the red power lead to the chassis or vehicle frame, or (+) battery terminal.

## **OPERATING PROCEDURE TO RECEIVE**

1. Be sure that the power source, antenna and microphone are connected to the proper connectors before going to the next steps.
2. Turn the unit ON by rotating the Volume Control clockwise.
3. Set the Channel Selector Switch to the desired channel.
4. Set the Volume Control to a comfortable listening level.
5. Listen to the background noise from the speaker. Turn the Squelch Control slowly clockwise until the noise JUST disappears (no signal should be present). Leave the control at this setting. The SQUELCH is now properly adjusted. The receiver will remain quiet until a signal is actually received. Do not advance the control too far, or some of the weaker signals will not be heard.

## **OPERATING PROCEDURE TO TRANSMIT**

### **CAUTION**

The transmitter Voltage Standing Wave Ratio (V.S.W.R.) measurement must be performed prior to the use of the transmitter. A V.S.W.R. ratio in excess of 2:1 may damage the transmitter.

1. Be sure the operator of the transmitter is a holder of a Citizens Band license issued by the F.C.C. or has applied for a license and has in his possession a completed temporary permit (F.C.C. Form 555-B).
2. Be sure the operator has read and understands part 95, F.C.C. Rules and Regulations prior to operating the transmitter.
3. Select the desired channel.

4. If the channel is clear, depress the push-to-talk switch on the microphone and speak in a normal voice.

## PREVENTIVE MAINTENANCE

At six to twelve month intervals, the following system checks should be made:

1. Check Standing Wave Ratio (SWR).
2. Inspect all electrical connections to ensure that they are tight.
3. Inspect antenna coaxial cable for wear or breaks on shielding.
4. Inspect all screws and other mounting hardware for tightness.

## OPERATOR TROUBLESHOOTING

Should the unit malfunction or not perform properly, the operator should perform the procedures indicated below:

1. If the transceiver is completely inoperative.
  - \* Check the power cord and fuse.
2. If trouble is experienced with receiving.
  - \* Check ON/OFF VOLUME CONTROL setting.
  - \* Be sure SQUELCH is adjusted properly. Is the radio over-squelched?
  - \* Check to see that the radio is switched to an operational mode.
3. If trouble is experienced with transmitting.
  - \* Check to see that the transmission line (coaxial cable) is securely connected to the ANTENNA CONNECTOR.
  - \* Be sure that the antenna is fully extended for proper operation.
  - \* Be sure that all transmission line (coaxial cable) connections are secure and free of corrosion.

## SPECIFICATIONS:

### GENERAL

Channels	: 40
Frequency Range	: 26.965–27.405 MHz
Frequency Control	: PLL Synthesized
Antenna Impedance	: 50 ohm
Power Input	: 13.8V DC
Accessories	: DC Power Cord, Microphone, Microphone Hanger, Mounting Bracket
Size (WxDxH)	: 160mm x 55mm x 217mm
Weight	: 2-5/8 pounds

### TRANSMITTER

Output Power	: 4 watts
Emission Type	: 6A3
Hum and Noise	: Better than -60 dB
Frequency Tolerance	: 0.002%
Modulation	
Percentage (Peak)	: 100%
Spurious Rejection	: Better than -70 dB

### RECEIVER

Sensitivity at 10 dB S+N/N	: 0.5 $\mu$ V
Sensitivity at 500 mW audio output	: 0.5 $\mu$ V
Squelch Threshold	: 0.5 $\mu$ V
Squelch Tight	: 1000 $\mu$ V
Signal Meter S-9	: 100 $\mu$ V
Audio Output Power (Max)	: 5 watts
Audio Output Power (10% Dist.)	: 4 watts
Selectivity @ 6 dB down	: 7 kHz
Adjacent Channel Rejection	: -60 dB
Image Rejection	: -80 dB
Speaker Impedance	: 16 ohm

### PUBLIC ADDRESS

Output Power at 10% distortion:	4 watts
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## CONTROLS AND THEIR FUNCTIONS



- 1. MIC GAIN:** This control is used to adjust, as required, microphone input sensitivity for optimum amount of modulation in transmit. UNIDEN Electronics citizen's band transceivers have been designed to permit the user to attain levels of modulation up to 100%, depending on the setting of the microphone gain control, using the microphone provided with the unit. UNIDEN's automatic compression and peak limiting circuits assure maximum modulation with minimum distortion.
- 2. RF GAIN:** This control is used primarily to optimize reception in strong signal areas. Gain is reduced by counterclockwise rotation of the control.
- 3. RF POWER/"S" METER:** This meter shows the Radio Frequency power when transmitting and the strength of the incoming signal when receiving. A change of one "S" unit indicates a change of 6 dB in signal level. The metering circuit is calibrated so that for 100 microvolts, the "S" meter will read S-9.
- 4. CHANNEL INDICATOR:** Light Emitting Diode(LED) indicates the channel number in use.
- 5. CHANNEL SELECTOR SWITCH:** This switch selects the desired channel for transmission and reception. All channels, except channel 9, may be used for communications between stations operating under different licenses. Channel 9 has been reserved by the F.C.C. for emergency communications involving the immediate safety of individuals or immediate protection of property. Channel 9 also may be used to render assistance to a motorist. This is an F.C.C. rule and applies to all operators of citizens band radios.
- 6. TX/RX INDICATOR:** Light Emitting Diode (LED) which indicates the mode of operating. It indicates red while transmitting and green for receiving.
- 7. PRESS-TO-TALK MICROPHONE:** The receiver and transmitter are controlled by the press-to-talk switch on the microphone. Press the switch to activate the transmitter; release the switch to receive. When transmitting, hold the microphone two inches from the mouth and speak clearly in a normal voice. The microphone provided with your radio is a detachable low impedance dynamic type.
- 8. OFF/VOL. CONTROL:** Turn clockwise to apply power to the radio and to set the audio volume to the desired listening level. Turn fully counter clockwise to turn the radio OFF.

9. **SQUELCH CONTROL:** This Squelch Control is rotated to cut off or eliminate received background noise in the absence of an incoming signal. For maximum receive sensitivity, it is desired that the control be rotated only to this point where the receive background noise or ambient background noise is eliminated. Turn the control fully counter clockwise, then slowly rotate clockwise until the receive noise disappears. Any signal to be heard must now be slightly stronger than the average received noise. Further clockwise rotation will increase the threshold level which a signal must overcome in order to be heard. Only strong signals will be heard at the maximum clockwise setting.
10. **PA-CB SWITCH:** This control engages the PA (public address) function. The PA function should not be used unless an external speaker is connected. In the CB position, the PA function is disabled and the radio will transmit and receive on the selected channel.
11. **ANL SWITCH:** This switch, when set in the ANL position, activates an automatic noise limiter circuit which reduces impulse type external noise.
12. **DIMMER SWITCH:** This switch is used to adjust the brightness of the LED channel display and the meter. DIM position reduces brightness.
13. **CH9/OFF SWITCH:** When placed in the CH9 position, the receiver and transmitter are switched to Channel 9, the emergency channel regardless of the channel selector tuning. The OFF position restores frequency control back to the channel selector switch.
14. **CH 9 INDICATOR:** Light Emitting Diode (LED) which lights red when the CH 9 priority switch is activated.

**ANTENNA CONNECTOR:** This female connector permits connection of the transmission line cable male connector (PL-259) to the transceiver.

**PUBLIC ADDRESS:** An external 8 ohm 4-watt speaker must be connected to the PA SPKR jack located on the rear panel when the transceiver is used as a public address system. The speaker should be directed away from the microphone to prevent acoustic feedback. Physical separation or isolation of the microphone and speaker is important when operating the PA at high output levels.

**POWER:** This jack permits connection of the D.C. power to the transceiver. A power cord with polarized plug is supplied with the radio. The polarized plug ensures that the power will always be connected properly.

**EXTERNAL SPEAKER:** The External Speaker Jack is used for remote receiver monitoring. The external speaker should have 8-ohm impedance and be rated to handle at least 4.0 watts. When the external speaker is plugged in, the internal speaker is automatically disconnected.

## SERVICING YOUR TRANSCEIVER

The technical information, diagrams and charts will be supplied upon request for the use of a qualified holder of a first or second class radiotelephone license in servicing this transceiver. It is the user's responsibility to see that this radio is

operating at all times in accordance with the F.C.C. Citizens Radio Service regulations.

If you install your own transceiver, do not attempt to make any transmitter tuning adjustments, as they are prohibited by the F.C.C. unless you hold or are in the presence and under the supervision of a first or second class radiotelephone licensed person. A Citizens Band or Amateur license is not sufficient.

Please refer to the WARNING information contained in the 1st page of your Owner's Guide.

(NOTE: When ordering parts, it is essential to specify the correct model number and serial number of the unit.)

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## TWO-YEAR FULL WARRANTY

**WARRANTOR.** UNIDEN CORPORATION OF AMERICA ("UNIDEN"), 6345 Castlaway Court, Indianapolis, Indiana 46250.

**ELEMENTS OF WARRANTY.** UNIDEN warrants, for the duration of this warranty, its UNIDEN CB Product to be free from defects in materials and craftsmanship with only the limitation or exclusions set out below.

**WARRANTY DURATION.** This Warranty shall terminate and be of no further effect Two (2) years after the date of original purchase of the Product or at the time the Product is (a) damaged or not maintained as reasonable and necessary, (b) modified, (c) improperly installed, (d) is repaired by someone other than Warrantor for a defect or malfunction covered by this Warranty, or (e) used in a manner or purpose for which the Product was not intended.

**PARTS COVERED.** This Warranty covers all components of the Products.

**STATEMENT OF REMEDY.** In the event that the Product does not conform to this Warranty at any time while this Warranty is effective, Warrantor will repair the defect and return it to you prepaid, without charge for parts, service, or any other costs incurred by Warrantor or its representatives in connection with the performance of this Warranty. In addition, if the Product contains a defect or malfunction which is not repaired after a reasonable number of attempts by Warrantor to repair the Product, the Product or defective component will, at your election, either be replaced without charge or the purchase price for the Product will be refunded when the defective Product is delivered to Warrantor at 8034 Castlaway Drive, Indianapolis, IN 46250 free and clear of all liens and encumbrances. Please note that while the Product will be remedied under this Warranty without charge, THIS WARRANTY DOES NOT COVER OR PROVIDE FOR THE REIMBURSEMENT OR PAYMENT OF INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Some states do not allow this exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

**WARRANTY REGISTRATION CARD.** In order to facilitate the servicing of this Warranty by Warrantor, the Warranty Registration Card should be returned to Warrantor. However, return of the Warranty Registration Card is not a precondition of this Warranty, and this Warranty will be observed by Warrantor whether or not the Warranty Registration Card is returned, on the condition that other satisfactory evidence of the date of the original purchase is provided by Warrantor.

**PROCEDURE FOR OBTAINING PERFORMANCE OF WARRANTY.** In the event that the Product does not conform to this Warranty, the Product should be shipped prepaid to Warrantor at 8034 Castlaway Drive, Indianapolis, IN 46250. THE ORIGINAL OR A COPY OF THE SALES RECEIPT OR OTHER VALID EVIDENCE OF THE DATE OF THE ORIGINAL PURCHASE MUST ACCOMPANY THIS PRODUCT.

**LEGAL REMEDIES.** This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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CORPORATION OF AMERICA

Personal Communications Division  
6345 Castlaway Court  
Indianapolis, Indiana 46250